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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/755,349	01/05/2001	Donald E. Woodmansee	9038-120000	3971	
7590 12/03/2003			EXAMINER		
Chris A. Caseiro			PERRIN, JOSEPH L		
Pierce Atwood One Monument Square			ART UNIT	PAPER NUMBER	
Portland, ME 04101			1746		
			DATE MAILED: 12/03/2003		

Please find below and/or attached an Office communication concerning this application or proceeding.

•				Cl	0/2				
Office Action Summary		Application No.		Applicant(s)	2				
		09/755,349		WOODMANSEE E	ET AL.				
		Examiner		Art Unit	<u> </u>				
	·	Joseph L. Perrin, Ph.	D	1746					
Period fo	The MAILING DATE of this communication app or Reply	pears on the cover she	eet with the co	rrespondence ad	dress				
A SH THE - Exte after - If the - If NC - Failu - Any	ORTENED STATUTORY PERIOD FOR REPL'MAILING DATE OF THIS COMMUNICATION. Insions of time may be available under the provisions of 37 CFR 1.1. SIX (6) MONTHS from the mailing date of this communication. It is period for reply specified above is less than thirty (30) days, a reply period for reply is specified above, the maximum statutory period or the toreply within the set or extended period for reply will, by statute reply received by the Office later than three months after the mailing ed patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, r y within the statutory minimum vill apply and will expire SIX (6 , cause the application to beco	may a reply be time of thirty (30) days on MONTHS from the ome ABANDONED	ly filed will be considered timel e mailing date of this co (35 U.S.C. § 133).					
1)⊠	Responsive to communication(s) filed on 10 Ju	<u>ıly 2003</u> .							
2a) <u></u> ☐	This action is <b>FINAL</b> . 2b)⊠ This action is non-final.								
3)	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.								
Dispositi	ion of Claims								
4)⊠	Claim(s) 11-19 is/are pending in the application	n.							
	4a) Of the above claim(s) is/are withdrawn from consideration.								
5)	Claim(s) is/are allowed.								
6)⊠	Claim(s) <u>11-19</u> is/are rejected.								
7)	Claim(s) is/are objected to.								
8)[	Claim(s) are subject to restriction and/or	r election requiremen	ıt. →						
Applicati	on Papers								
9)[	The specification is objected to by the Examine	r.							
10)[	The drawing(s) filed on is/are: a) acce	epted or b)⊡ objecte	ed to by the Ex	aminer.					
	Applicant may not request that any objection to the	drawing(s) be held in at	beyance. See 3	37 CFR 1.85(a).					
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).									
11)	The oath or declaration is objected to by the Ex	aminer. Note the atta	ached Office A	ction or form PT	O-152.				
Priority ι	ınder 35 U.S.C. §§ 119 and 120								
a)[ * S 13)	Acknowledgment is made of a claim for foreign All b) Some * c) None of:  1. Certified copies of the priority documents Certified copies of the priority documents Copies of the certified copies of the priority documents Copies of the certified copies of the priority application from the International Bureau Cee the attached detailed Office action for a list ocknowledgment is made of a claim for domestic nace a specific reference was included in the first CFR 1.78.  CER 1.78.  The translation of the foreign language procedures was included in the first sentence of the efference was included in the first sentence of the	s have been received ity documents have be 1 (PCT Rule 17.2(a)). of the certified copies priority under 35 U.st sentence of the special priority under 35 U.st sentence of the special priority under 35 U.st spriority under	I. I in Application been received a not received S.C. § 119(e) ecification or in as been received S.C. §§ 120 a	n No in this National (to a provisional n an Application ved. nd/or 121 since	application) Data Sheet.				
Attachment		,, <b>–</b> 1							
2) 🔲 Notic	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO-948) nation Disclosure Statement(s) (PTO-1449) Paper No(s) 7	. 5) 🔲 Notic	e of Informal Pate	TO-413) Paper No(s ent Application (PTO					

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#### **DETAILED ACTION**

#### Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 July 2003 has been entered.

### Response to Arguments

2. Applicant's arguments, see Amendment, filed 10 July 2003, with respect to the rejections of claims 11-12 & 14-18 under 35 USC §102, and claims 13 and 19 under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly cited US 5,011,540 to McDermott.

## Claim Rejections - 35 USC § 103

- 3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- 4. Claims 11-12 & 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,423,152 to Landaas in view of US 5,011,540 to McDermott.

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Landaas teaches a cleaning apparatus for hollow cleaning site structure A having a gas inlet (gas source) 16, a mixing chamber 18 connected to the structure by a coupling, a control arrangement (valve) 17 coupling the gas source to the mixing chamber, an expansion separator 33 for separating the gas and liquid/particulate mixture, a filter 7 coupled to the separator, a measuring unit (rotameter) 5, coupled to the filter, and gas and liquid return ducts to recycle the gas and liquid to create a closed-loop system (see entire reference of Landaas, for instance, Figure 3 and col. 3, lines 10-65). Landaas also teaches that it is known to utilize water and air as the cleaning liquid and gas, respectively, in such an apparatus (see, for instance, col. 1, line 65 to col 2, line 3). Although Landaas does disclose it is advantageous to apply the cleaning liquid as an aerosol fog (see, for instance, col. 4, lines 5-6), Landaas does not expressly disclose a liquid misting means (e.g. spray head or nozzle) at the gas/liquid mixing interface, in the instant case the mixing chamber.

Re claims 11 & 19, McDermott teaches that it is known to provide a liquid nozzle (spray head) at the gas/liquid interface to achieve a "cloud of cleaning fluid" which more uniformly cleans a compressor of gas turbine engines relative to typical spray cleaning (see entire reference of McDermott, for instance, col. 1, line 66 – col. 2, line 54).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the cleaning system and mixing chamber of Landaas, with the liquid misting means

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(nozzle/spray head) disclosed by McDermott, for the purpose of creating a cleaning liquid mist or "cloud" to achieve improved and more uniform cleaning of a gas turbine system.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Landaas and McDermott, as applied above, and further in view of US 5,954,911 to Bergman *et al.* (hereinafter "Bergman").

Recitation of Landaas and McDermott are repeated here from above.

However, Landaas and McDermott do not expressly teach a gas filter and heater.

Bergman teaches that it is known to utilize a gas filter 297 and gas heater 299

prior to mixing a gas and liquid in a gas/liquid cleaning system (see, for instance,

Figure 4 and col. 9, lines 58-67).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the cleaning system, disclosed by Landass and McDermott, with the gas filter and heater, disclosed by Bergman for the purpose of preventing contaminants from entering the cleaning system and maintaining purging of the vapor/mist and drying of the structure to be cleaned.

6. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landaas and McDermott, as applied above, and further in view of US 4,752,399 to Viator *et al.* (hereinafter "Viator").

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Recitation of Landaas and McDermott are repeated here from above. Although Landaas does disclose means for separating gas and liquid (*i.e.* an expansion separator), Landaas does not expressly disclose using a heat exchanger to separate gas and liquid. Viator teaches that it is known to use a heat exchanger to cool and separate gas/liquid mixtures (see, for instance, col. 3, lines 30-33).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the gas/liquid separating means disclosed by Landaas with the cooling gas/liquid separating means (heat exchanger) disclosed by Viator for the purpose of separating a gas/liquid mixture through cooling by condensing gaseous phase liquids.

#### Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,503,334 to Ruiz et al., which discloses a turbine cleaning apparatus utilizing forced mist.

US 4,196,020 to Hornak *et al.*, which discloses a gas turbine cleaning apparatus utilizing wash spray.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is

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(703)305-0626. The examiner can normally be reached on M-F 7:30-5:00, except alternate Fridays.

- 9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703)308-4333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.
- 10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Joseph L. Perrin, Ph.D.

Examiner

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jlp

SUPERVISORY PATERVISOR

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